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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,424	12/23/2003	Yunggyo Lee	031345	7516

23850 7590 11/21/2005

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP  
1725 K STREET, NW  
SUITE 1000  
WASHINGTON, DC 20006

EXAMINER

PRICE, CRAIG JAMES

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/743,424

Applicant(s)

LEE ET AL.

Examiner

Craig Price

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The change to the abstract of the disclosure is agreed with and the objection is removed.

### *Drawings*

2. The changes to the drawing are agreed with and the objection is removed.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission to the prior art (APA) as shown in Figures 1 and 2, in view of Chlebek et al. (US 5,513,395).

APA discloses a safety valve operated by differential pressure, the valve comprises of a valve body (10), a valve disk (20), a central link (30), a link (40), an elastic member (50), the valve disk (20) being mounted on the valve body (10), the central link (30) being connected at one end to the valve disk (20), and opening and closing the valve, the link (40) being connected pivotally at one end to the central link (30), and making the central link (30) move according to rotation of the link (40) around a link pivot (42), the elastic member (50) being connected pivotally at one end to the link (40,45) and fixed pivotally at the other end (52), and making the link rotate around the link pivot (42) by elastic force of the elastic member (50), the member being mounted on the other end of the central link (30).

APA lacks a non-magnetic member attracted by a magnet.

Chlebek et al. teaches the use of a non-magnetic member (96) attracted by a permanent magnet (94), that are used with an elastic member (88), a valve body (50,51,60), and a valve disk (86), where the valve is being closed tightly without leakage by attractive force of the magnet with the elastic member (col. 6, Lns. 21-58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the magnet of Chlebek et al. onto the frame of APA and the non-magnetic member of Chlebek et al. onto the central link of APA, in order to

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have a magnetic attraction force that holds the non-magnetic member firmly up in a closed position, as taught by Chlebek et al. in Figures 3 and 4 and in (col. 3, Lns. 50-56),

Regarding claim 2, APA discloses a gasket (15) located between the valve body (10) and the valve disk (20).

Regarding claim 3, APA discloses the elastic member is a spring (50).

Regarding claim 5, the claimed subject matter, "wherein the interval between the magnet and the member is 0.05-.015 mm when the valve is closed."

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have the interval of APA and Chlebek et al. to be 0.05 – 0.015 mm, because the applicant has not disclosed that having an interval of 0.05 – 0.015 mm provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the disclosed interval, between the magnet and the member, which provides a magnetic force that holds the valve firmly up in a closed position.

Therefore, it would have been an obvious matter of design choice to modify the prior art as shown in Figure 1 and 2 in view of Chlebek et al. to obtain the invention specified in claim 5.

Regarding claim 6, APA discloses the valve is used for a pressurization system in an unmanned airship.

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5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA and Chlebek et al., and further in view of Sorensen (US 5,050,639).

APA and Chlebek et al. have taught all of the features of the claimed invention, although lacks "wherein the interval between the magnet and the member is 0.05-.015 mm when the valve is closed".

Sorensen teaches the use of an air gap between a magnet (20) and a non-magnetic member (21) (col. 3, Lns. 17-24). Clearly an artisan skilled in the art of using valves with magnets would have selected a suitable gap between the magnet and the non-magnetic member such that the interval between the magnet and the member is 0.05-.015 mm when the valve is closed, in order to provide an interval which would protect the magnet and non-magnetic member from being damaged when the valve is closed.

### ***Response to Amendment***

5. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamazaki (JP357177468A), Mitchell (US 3,199,524) and Voss (US 3,217,736) show valves using magnets.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Price whose telephone number is (571) 272-2712. The examiner can normally be reached on 8AM - 5PM M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on (571) 272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CP



November 15, 2005



**STEPHEN BLAU**  
**PRIMARY EXAMINER**

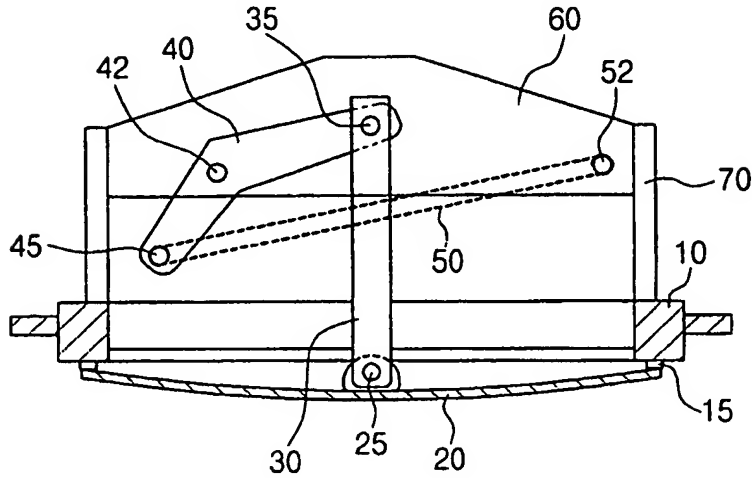




U.S. SER. NO. 10/743,424  
Inventor: Yunggyo LEE et al.  
Docket No.: 031345  
REPLACEMENT SHEET

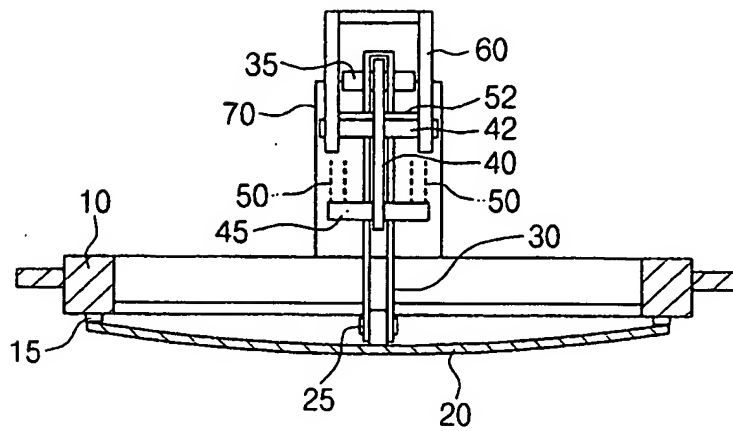
[Drawings]

FIG. 1



PRIOR ART

FIG. 2



PRIOR ART

Approved Blaw 11/15/05